

Pancreatic Tuberculosis Mimicking Pancreatic Tumour in An Hiv-Positive Patient: A Rare Case Report and Literature Review

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ABSTRACT

Pancreatic tuberculosis (PT) is an exceedingly rare form of extrapulmonary tuberculosis, even in regions where tuberculosis is endemic. Its clinical and radiological presentation often mimics pancreatic malignancy, leading to diagnostic challenges and unnecessary surgical interventions. We report a case of isolated pancreatic tuberculosis in a 46-year-old HIV-positive woman who presented with constitutional symptoms and a pancreatic head mass initially suspected to be a mucinous cystic neoplasm. Radiological imaging revealed a cystic pancreatic lesion with necrotic lymphadenopathy. Intraoperative frozen section demonstrated granulomatous inflammation, prompting cessation of the planned Whipple's procedure. Histopathology confirmed caseating granulomas. The patient responded well to antitubercular therapy (ATT). This case highlights the importance of considering PT in the differential diagnosis of pancreatic masses, especially in immunocompromised patients, and emphasizes the role of EUS-guided FNA in preventing unnecessary surgery.

Introduction

Tuberculosis remains a major global health burden, with India contributing nearly 20% of the world's cases. Extrapulmonary tuberculosis is common in HIV-positive individuals; however, pancreatic involvement is extremely rare. Autopsy studies report pancreatic TB in only 2-4.7% of patients with disseminated TB. Most available knowledge arises from isolated case reports, with few large series published [1-5].

Pancreatic TB may present as

- A solid or cystic mass
- A pancreatic abscess
- Part of miliary tuberculosis
- Isolated pancreatic involvement

Because its imaging features mimic pancreatic carcinoma, PT is frequently misdiagnosed. Early tissue diagnosis is crucial to avoid unnecessary major surgery.

Case Presentation

A 46-year-old HIV-positive woman presented with:

- 6-month history of epigastric pain

- Night sweats
- Weight loss of 5 kg
- Intermittent fever

Clinical Examination

- Temperature: 39.8°C
- Pulse: 128 bpm
- BP: 116/81 mmHg
- Mild epigastric tenderness
- No palpable mass, hepatosplenomegaly, or peripheral lymphadenopathy

Laboratory Findings

- CRP: Elevated
- Amylase/Lipase: Normal
- CA 19-9 and CEA: Normal
- HIV serology: Positive
- CD4 count: 120 cells/mm³
- Chest X-ray: Normal

Imaging Studies

Ultrasound



Figure 1: Welldefined lobulated cystic lesion with internal debris at the pancreatic head.

A lobulated, heterogeneous, hypoechoic cystic lesion with irregular walls at the pancreatic head measuring $5.6 \times 5.3 \times 5.7$ cm, with multiple peripancreatic and para-aortic lymph nodes (1–1.9 cm).

CT Scan



Figure 2: Hypodense pancreatic head mass with necrotic lymphadenopathy.

- Hypodense, hypovascular mass with irregular margins
- Peripheral/central enhancement
- Multiple necrotic peripancreatic lymph nodes
- Pancreatic duct not dilated
- Impression: Suspicious for mucinous cystic neoplasm

Given the strong suspicion of malignancy, the patient was planned for Whipple's procedure [5-10].

Intraoperative Findings

Frozen section from three tissue samples revealed:

- Granulomatous inflammation
- Multinucleated giant cells
- Caseous necrosis

The procedure was aborted, and the abdomen was closed [11-15].

Diagnosis and Management

Postoperative evaluation confirmed pancreatic tuberculosis. The patient was started on standard anti-tubercular therapy (ATT) [16-20].

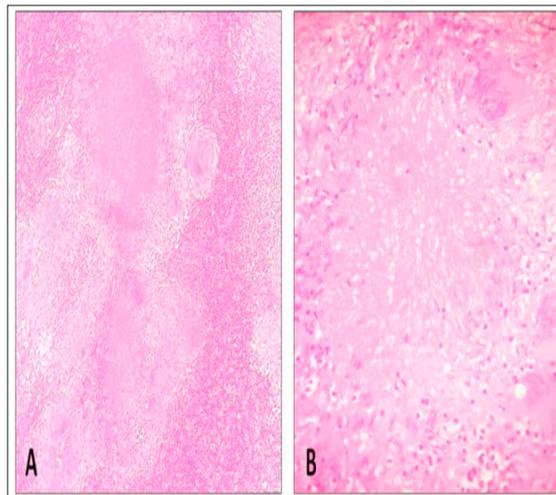


Figure 3A: H&E section showing caseous granulomatous inflammation.

Figure 3B: Epithelioid histiocytes and multinucleated giant cells surrounding central necrosis.

Outcome

- Marked clinical improvement
- Resolution of fever and abdominal pain
- Radiological regression of the pancreatic mass

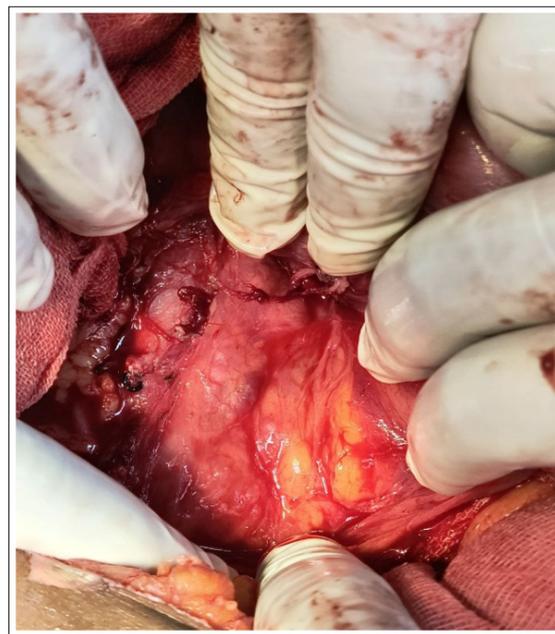


Figure 4A: Peripancreatic lymph nodes with necrotic changes

Figure 4B: Intraoperative view of the pancreatic head mass

Discussion

Pancreatic TB is rare even in HIV-positive patients, with an incidence of 0.46% on ultrasonography. The pancreas is relatively resistant to Mycobacterium tuberculosis due to pancreatic enzymes [21-25].

Modes of Spread

- Hematogenous dissemination
- Lymphatic spread from peripancreatic nodes
- Direct extension from adjacent organs

Clinical Presentation Symptoms are nonspecific

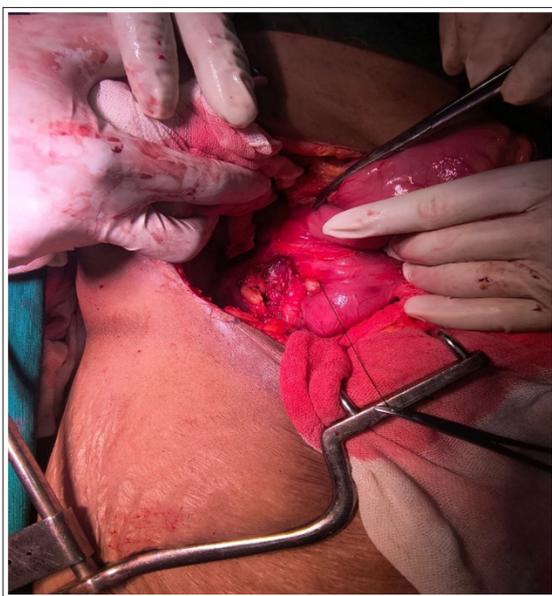
- Abdominal pain
- Fever
- Weight loss
- Night sweats
- Occasionally jaundice or palpable mass

Radiological Features PT may appear as

- Solid mass
- Cystic lesion
- Abscess
- Necrotic lymphadenopathy

These findings often mimic

- Pancreatic adenocarcinoma
- Mucinous cystic neoplasm
- Pseudocyst

**Diagnostic Gold Standard EUS-guided fine-needle aspiration (FNA) Allows**

- Cytology
- AFB staining
- GeneXpert
- Culture

Early diagnosis prevents unnecessary surgery [26-30].

Treatment

Standard ATT for 6-12 months is highly effective. Surgery is reserved for complications such as obstruction or diagnostic uncertainty [31-40].

Conclusion

Pancreatic tuberculosis, though rare, should be considered in the differential diagnosis of pancreatic masses, especially in HIV-positive or immunocompromised patients. Radiological features often mimic malignancy, making tissue diagnosis essential. EUS-guided FNA is the preferred diagnostic modality. Early recognition and ATT can prevent unnecessary major surgery and lead to complete recovery [41-56].

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